

THE IBIS.

TENTH SERIES.

VOL. III. No. 3. JULY 1915.

XXII.—*Notes on Bird-Migration at the Mouth of the Yenesei River, Siberia, as observed in the Autumn of 1914.* By MAUD D. HAVILAND.

DURING the summer and part of the autumn of 1914, as a member of the party of Miss Czaplicka of Oxford, I spent some weeks on the estuary of the Yenesei River. July and August were passed at Golchika; part of September I spent at Nosonovsky Ostrov, one of the islands of the Breokoffsky Group, about two hundred versts higher up the river. At Golchika I was able to keep regular records of the departure of the different species of birds; at Nosonovsky, where I was living on board ship, it was not possible to make observations on shore every day, and my notes are incomplete.

Apart from the obvious drawbacks of making observations in such an immense and uniform country as the Yenesei tundra, where at any time bird-life tends to be scattered and diffused, there is great difficulty in obtaining anything like a just idea of the direction and magnitude of any migratory movement. In England it is possible to judge the trend and scope of such movement by the species or subspecies that are observed to pass; but at the mouth of the Yenesei this often cannot be done, because, being itself so

far north, the species seen are all represented locally, and it is impossible to say whether they have been reared in the district or are passengers from yet higher latitudes.

For the purposes of this paper, the birds that I observed at Golchika can be divided into two groups: those whose return migration appeared to take place at the heyday of the summer, quite independently of weather-conditions or food-supply; and those whose southward movement was put off until the winter storms drove them away. Certain interesting species, such as the Red-breasted Goose (*Branta ruficollis*), Long-tailed Skua (*Stercorarius longicauda*), and Bar-tailed Godwit (*Limosa lapponica*), were too scarce to allow of any observations being made of their movements.

The first group included the Turnstone (*Arenaria interpres*), Grey Phalarope (*Phalaropus fulicarius*), Shore-Lark (*Otocorys alpestris*), Red-throated Pipit (*Anthus cervinus*), Curlew-Sandpiper (*Tringa ferruginea*), Arctic Tern (*Sterna paradisea*), and possibly the Red-necked Phalarope (*Phalaropus lobatus*) and Wheatear (*Enanthe enanthe*).

Of these, the Turnstone was the only species that I did not find breeding in the district; in fact, it did not occur there at all until August 12, when I shot a bird from a little flock of four on the western shores of the river. The specimen was a female, and did not appear to have bred. For the subsequent two days several of such little parties passed Golchika, but after that I saw no more until September 5, when I flushed a solitary bird from a swamp at Nosonovsky.

The Grey Phalarope was the earliest of all the birds to leave Golchika. This species bred rather late, for it nested in the low-lying marshes which were under water during the thaw; but the young fledged with great rapidity, and by August 5 there was not a bird to be seen.

The next departure was that of the Shore-Lark, which I last recorded on August 10. This bird nested on the crests of the dry hills of the tundra, which were among the first spots to be freed from snow, and consequently the eggs were laid early.

The Curlew-Sandpipers departed about August 15. They did not come down to the riverside flats and marshes before migration, as did the Stints and Plovers, which bred with them on the tundra.

The Red-throated Pipits also had all disappeared by August 15. This Pipit breeds rather late, but at Golchika the young are fed by the parents long after they have left the nest. I saw a bird with its bill full of mosquitoes on August 7, and therefore the fledglings must have been tended almost until the date of departure.

The Arctic Tern and the Red-necked Phalarope disappeared (approximately) about August 18; but I saw a solitary bird of the latter species swimming in the Yenesei on August 26. The White Wagtail (*Motacilla alba*) and Wheatear were not observed at Golchika after August 20, though two young birds of the former species were seen on September 3 at Pustoy, seventy versts to the south.

The departure of the second group of birds was, I think, entirely due to the weather-conditions. On August 27 severe south-easterly gales set in and blew for six days, with frequent squalls of rain. During this time I constantly saw small flights of Plovers and Stints passing up the Yenesei. This storm drove away the Lapland Buntings (*Calcarius lapponicus*), Snow-Buntings (*Plectrophenax nivalis*), Ruffs (*Machetes pugnax*), Grey Plovers (*Squatarola squatarola*), and Temminck's Stints (*Tringa temminckii*). It also disposed of the bulk of the Little Stints (*Tringa minuta*) and Dunlins (*Tringa alpina*), though I saw a few of these two species on September 2. Ringed Plovers (*Ægialitis hiaticula*) and Asiatic Golden Plovers (*Charadrius dominicus fulvus*) were common until September 3, on which date I left the district.

From the above notes it is obvious that, although food-supply undoubtedly influenced the movements of such species as the Red-throated Pipit, whose young are reared almost entirely on mosquitoes, and possibly those of the Arctic Tern (although on the Yenesei this tern does not live only upon live food, but scavenges for offal round the fish-

stations like any gull), yet in certain cases the mainspring of the southward migration cannot be referred to this cause. For instance, the Grey Phalarope disappeared more than a fortnight before the Red-necked Phalarope, although, to a human observer, the two species seem identical in the matter of food, haunts, and habits. Again, the Shore-Lark and the Wheatear inhabit the same ground and are apparently very similar in their feeding-habits, and yet one leaves many days before the other. The Curlew-Sandpiper and the Golden Plover breed at the same time, and frequent the same parts of the tundra, and yet the former species migrates much earlier than the latter; and so on.

The ducks (*Clangula hyemalis*) and the geese and divers do not leave Golchika until mid-September. In the case of the divers this is owing to the lateness of the breeding-season, for the birds are obliged to wait until the ice has thawed on the little lakes, and consequently the young cannot fly before the end of August. The White-billed Diver (*Colymbus adamsi*) breeds out on the tundra, some hundreds of miles east of the Yenesei. I did not meet with this species, but the Siberians recognized it from descriptions and pictures and said that it was sometimes seen at Golchika in the spring, but they did not remember having seen it in the autumn. Mr. A. Trevor-Battye records that he saw one of these birds at Kolguev towards the end of June; so that it is just possible that in the spring migration the birds move eastwards across the mouths of the great estuaries. In the autumn they may travel by a more direct and slightly different route to the south—possibly up the valleys of the Pyasina and Khatanga Rivers.

There is one record of some little interest at Golchika, and that is the occurrence of the Bluethroat (*Cyanosylvia succica*). So far as I could ascertain, this species does not breed within a hundred miles of the district, but during the first week in August a few small parties of immature birds appeared along the riverside and haunted the driftwood-strewed beaches for two or three weeks. Mr. H. L. Popham

(Ibis, 1897, p. 93) mentions that he also saw young Blue-throats at Golchika in August.

My observations at Nosonovsky Ostrov were very disconnected, and are consequently of little value. On September 5 I saw numbers of Wheatears on the fore-shore, also some Lapland Buntings and a few Mountain Accentors (*Accentor montanellus* Dresser). I believe that Breokoffsky is the most northerly point of the range of this bird on the Yenesei. Four days later all the Accentors and most of the Buntings and Wheatears had gone; and in subsequent visits ashore I saw no small birds at all, except a few Ringed Plovers and two Wheatears on the 12th. The absence of Waders surprised me a good deal, for the broad sandy beaches looked like an ideal feeding-ground; but I saw none but one Ruff, which flew past the ship on the 14th. Geese continually flew southward in small parties, and occasionally I saw Swans and Divers. On shore the Willow-Grouse (*Lagopus albus*) was frequent. The Siberians said that it often lingered until October. Gulls (*Larus fuscus antelius*) remained common until my departure on September 19, and a few accompanied the ship as far north as Dickson Island.

With regard to the *direction* of migration on the Yenesei, there can be little doubt that on the lower reaches, at any rate, both for geographical and also for climatic reasons, the principal movement is from north to south along the coasts of the great river. However, I do not think that, even if we knew as much of the bird-movements in those regions as we do of those in our own country, that we could write of them otherwise than with reserve, for the reason that in those latitudes life of all kinds is dependent on climatic conditions to a degree unknown in the south. Any acceleration or delay in the annual shrinkage of the Polar ice-cap must react temporarily on the distribution of the birds of the country, to the extent of two or three hundred miles perhaps in the restriction or extension of the summer range of a species, and consequently produce an effect on its migratory movements for that season.